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HVAC/R & Controls Supplier Summit: Partnering for Results

HVAC/R & Controls Supplier Summit
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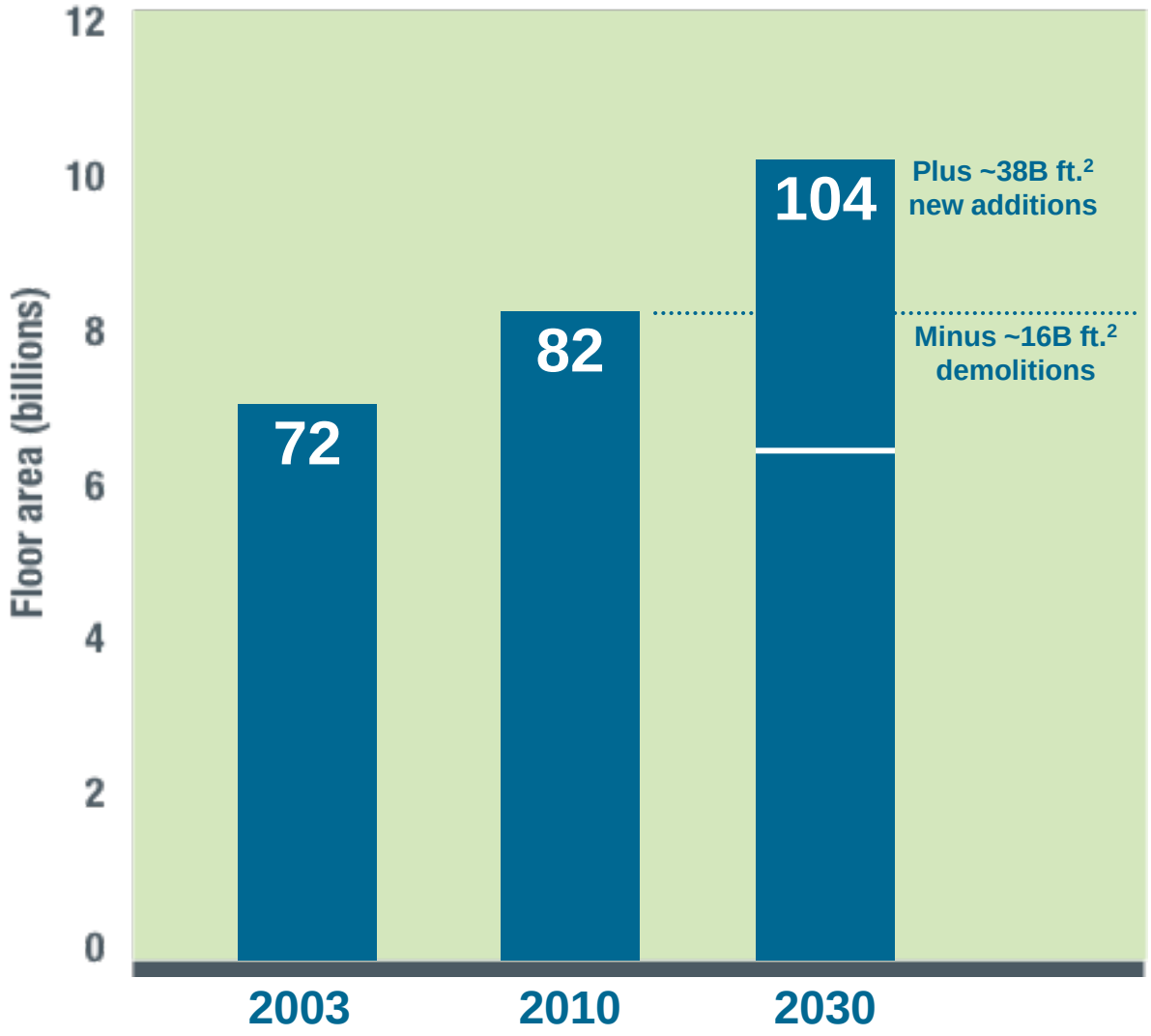
U.S. Department of Energy
Energy Efficiency and Renewable Energy

Commercial Buildings' Energy Share

- Commercial buildings account for:
  - 18% of U.S. energy
  - 18% of greenhouse gas emissions (~1,000 MMT of CO_2e)
  - slightly less than India's entire energy consumption and GHG emissions

Commercial Square Footage Projections



Source: EIA's *Annual Energy Outlook 2009*, Table 5.

Fortunately …

- Market demand for tangible ways to increase energy efficiency is tremendous
- Strategies and technologies for commercial building energy performance are advancing
- Economic and environmental drivers are increasing
- Policy and legislation are playing a bigger role

Relevant Policy and Legislation

EISA 2007

- established Net-Zero Energy Commercial Building Initiative
- requires existing federal buildings to use 50% less energy by 2015

American Recovery and Reinvestment Act of 2009

- set aside $16.8 billion for energy efficiency and renewable energy
- $2.5 billion of that allocated to Applied Research, Development, Demonstration, and Deployment

Executive Order 13514

- requires federal buildings to meet sustainability targets

American Clean Energy and Security Act *(in Senate)*

- would require increased stringency of ASHRAE 90.1: 30% now; 50% by 2016
- would establish incentive-based retrofit program for energy savings

Net-Zero Energy Commercial Building Initiative: Transforming the Built Environment

- Public-private partnerships promoting technology improvement and commercialization of advanced building technologies at accelerated pace
- Goal is enabling market-ready, net-zero energy commercial buildings by 2025
- Ongoing R&D and market engagement continually raise the bar on energy performance for today's buildings: Impacting Building Energy Use Today!

Goals for Commercial Buildings

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2050

All commercial buildings are ZEB (EISA 2007)
83% reduction in U.S. GHGs by 2050 (Obama)

2040

50% of commercial building stock is ZEB (EISA 2007)

2039

All New are ZEB (EISA 2007)
Stock energy performance 50% better w.r.t. CBECS 2003 (CBI Performance Goal)

2025

Improve New 70% with 5-year payback or less (CBI Performance Goal)

2020

17% reduction in GHGs rel. to 2005 (Senate Proposal)

2015

Improve New 50% (CBI Performance Goal)

Barriers to Progress

- High incremental first costs for energy-efficiency technologies and products
- Consumer concerns about quality and reliability (and warranties when purchased in bulk)
- Lack of detailed business case for energy-efficiency investments
- Dearth of customizable best practices and strategies on design, controls, installation, and commissioning of a particular technology

Commercial Building Energy Alliances (CBEAs)

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Informal associations among building owners and operators who want to reduce energy consumption

Goals

- Share best practices, energy-use measurement, and benchmarking
- Advance the business case for energy-efficient buildings
- Deploy advanced technologies through specifications and information-sharing
- Drive down costs by working with manufacturers and suppliers on the collective need for energy-efficient products and technologies: Supplier Summits

Today's Objectives

- Inform suppliers and manufacturers of CBEA members' short-term and long-term energy reduction targets
- Discuss ongoing projects of the CBEAs and national energy labs
- Address specific challenges to reducing HVAC's high-energy consumption
- Begin a conversation between commercial building owners and operators and manufacturers and suppliers of HVAC equipment and technologies

- Commercial building owners and operators know what they are looking for from the next great HVAC technology … do you?

Thanks!

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